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(71) Applicant *(for all designated States except US)*: THE ACROBOT COMPANY LIMITED [GB/GB]; Imperial College of Science, Technology & Medicine, Department of Mechanical Engineering Mechatronics in Medicine Group, Exhibition Road, London SW7 2BX (GB).

(72) Inventor; and

(75) Inventor/Applicant *(for US only)*: DENT, Alastair [GB/GB]; 225 Banbury Road, Oxford OX2 7HQ (GB).

(74) Agents: MAGGS, Michael, Norman et al.; Kilburn & Strode, 20 Red Lion Street, London WC1R 4PJ (GB).

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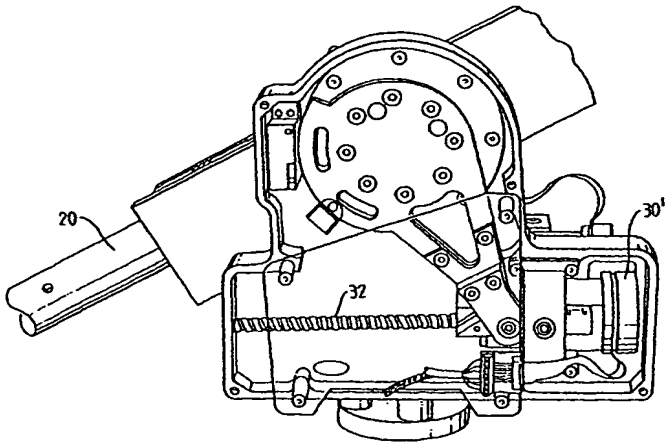
(54) Title: ROBOT HEAD COMPRISING SPINDLE DRIVE



(57) Abstract: A robot head, for example for use in surgery, provides a back-drivable system allowing a surgeon to closely control the position of a cutter or other tool. The cutter is mounted at the end of a telescopic arm (20) which can be rotated about two independent perpendicular axes. Rotation about each axis is controlled by a separate motor (30') which turns a lead screw (32). A bearing (34) travels along the lead screw and changes the angle of an offset crank (36) to cause the required rotation about the axis. The current rotational position about each axis is determined by a sensor at the output. A second sensor independently determines the position of the corresponding motor (30) and the two measured positions are compared. If they differ, the power to the cutter is immediately switched off.

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